

REMARKS

Applicants and their attorney wish to thank the Examiner for the telephone interview of August 31, 2005, with Mr. Bill Halliday, one of the inventors, and Claude E. Cooke, Jr., attorney. Applicants pointed out to the Examiner that two arguments, either of which should be persuasive, overcome the reference to the Shigerhara et al patent. The Examiner failed to notice that Shigehara et al also employs a pulsed laser source (See Fig. 2, showing that the monitor light output is pulsed). Shigehara et al employs an Optical Time Domain Reflectometer (OTDR) (See col 2, Lines. 8-19). Shigehara el al is describing a means to multiplex an OTDR. OTDR sources emit pulsed light. Applicants, in contrast, teach modulating a continuous wave laser light source (essentially a single wavelength source) with a sine wave signal that is stepped from audio to radio frequencies. Shigehara et al nowhere in the patent mentions the terms continuous or frequency, because there is a basic difference between the methods taught by Applicants and the teaching of Shigehara et al.

In considering references cited by the Examiner, Applicants examined a paper found by applicants in the literature. This paper, by R. I. MacDonald, discloses a frequency domain reflectometer. MacDonald has a continuous wave laser source and a single mode optical fiber coupled to the laser. MacDonald's measurements are made by chirping the laser. Applicants on the other hand perform measurements by stepping frequencies in discrete steps. Applicants' method requires two frequency generators. The system of Applicants is then distinctly different from that of MacDonald. Claim 1

of the application has been amended to add apparatus including two phase-locked frequency generators. Support for this amendment is found at Par. 52 of the application and in FIG. 6. Since Applicants' methods are different, Applicants' apparatus is required to be different. Amended claim 1, therefore, distinguishes over the disclosure of MacDonald cited in the enclosed Supplementary Information Disclosure Statement.

Since amended claim 1 is believed to be patentable over art of record, the Examiner is respectfully requested to enter the amendment to claim 1 and expeditiously allow this case to issue.

Respectfully submitted,



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